CP-293N

PC/HD to HDMI Scaler

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	11/08/14	Preliminary Release
VR1	25/12/14	Add Audio Cable
VR2	13/01/15	D-sub Cable Type
VS3	21/04/15	Updated Text/Diagrams

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1. INTRODUCTION

The PC to HDMI Scaler is designed to upscale an analog video signal from a PC (VGA) or HD (Component Video) source device to digital HDMI output in a wide range of HDTV and PC resolutions up to 1080p/WUXGA. Additionally this unit can also convert a digital/analog audio signal and then simultaneously output to an HDMI, Optical and 3.5mm Mini-jack (L/R audio) connections. This unit has a comprehensive OSD menu that allows the user to select a variety of output resolutions and make picture adjustments to optimize the image quality.

2. APPLICATIONS

- Display an analog PC/HD video signal on an HDMI display
- Scale an analog PC/HD video signal to HD resolutions
- Integrate an analog PC/HD video device, such as a Laptop or non-HDMI DVD player to an HDMI equipped display or AV receiver

3. PACKAGE CONTENTS

- 1×PC to HD Scaler
- 1×VGA Cable (D-sub 15-pin to D-sub 15-pin)
- 1×Stereo Audio Cable (3.5mm to 2-RCA)
- 1×5 V/2.6 A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

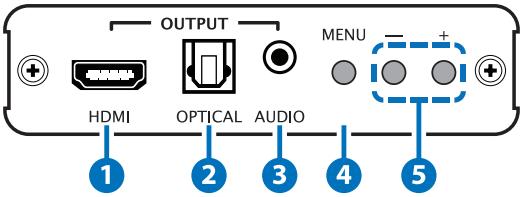
Analog video source equipment such as a non-HDMI equipped DVD player or PC/Laptop and and HDMI equipped display or switching device such as a matrix or AV receiver.

5. FEATURES

- HDMI, HDCP and DVI compliant
- Supports a wide range of PC resolutions from VGA to WUXGA (RB) and HD resolutions from 480i to 1080p
- Automatically detects the display settings of the connected display and outputs the correct resolution and refresh rate when the NATIVE output option is selected
- Supports adjustment of contrast, brightness, hue, saturation, sharpness, RGB (color tone) level and aspect ratio size of the video output
- Supports OSD selectable stereo analog and digital audio inputs and simultaneous stereo analog and digital audio outputs to HDMI, Optical digital audio and analog mini-jack connections

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1. **HDMI OUTPUT:** Connect to a HDMI equipped display or AV receiver for video and audio output.
2. **OPTICAL OUTPUT:** Connect to an amplifier or active speakers with an optical cable for LPCM 2 channel digital audio output.
3. **AUDIO OUTPUT:** Connect to an amplifier or active speakers with a 3.5mm mini-jack cable for analog audio output.
4. **MENU Button:** Press this button to enter the OSD (On-Screen Display) menu and press it again to make a selection.
5. **+/− Button:** Press these buttons to:

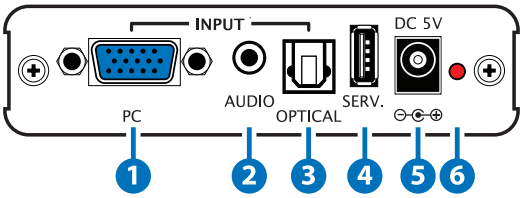
   When in the OSD menu

   - Navigate up/down the OSD menu.
   - To adjust the value of a menu selection.

   Under normal operation (outside of OSD menu)

   - Press the '-' button to perform automatic calibration of the output signal *when in PC MODE only*.
   - Press the '+' button together with the 'MENU' button to switch the output resolution to XGA@60 (1024×768).
   - Press the '-' button together with 'MENU' button to switch the output resolution to 720p@60.
   - Press both the '+' and '-' buttons at the same time to reset the device to the default settings.

6.2 Rear Panel



1. **PC INPUT:** Connect to the D-sub/VGA output of a source device such as a PC/Laptop with D-sub 15-pin cable or a DVD player with the supplied D-sub 15-pin to D-sub 15-pin adaptor cable.
2. **AUDIO INPUT:** Connect to the analog audio output of the source device such as a PC/Laptop with a 3.5mm mini-jack cable.
3. **OPTICAL INPUT:** Connect to the optical digital audio output of the source device with an optical cable.
4. **SERV.:** Reserved for firmware update only
5. **DC 5V:** Connect the 5V DC power supply to the unit and plug the adaptor into an AC outlet.
6. **Power LED:** This LED will illuminate once the unit is connected to an active power supply.

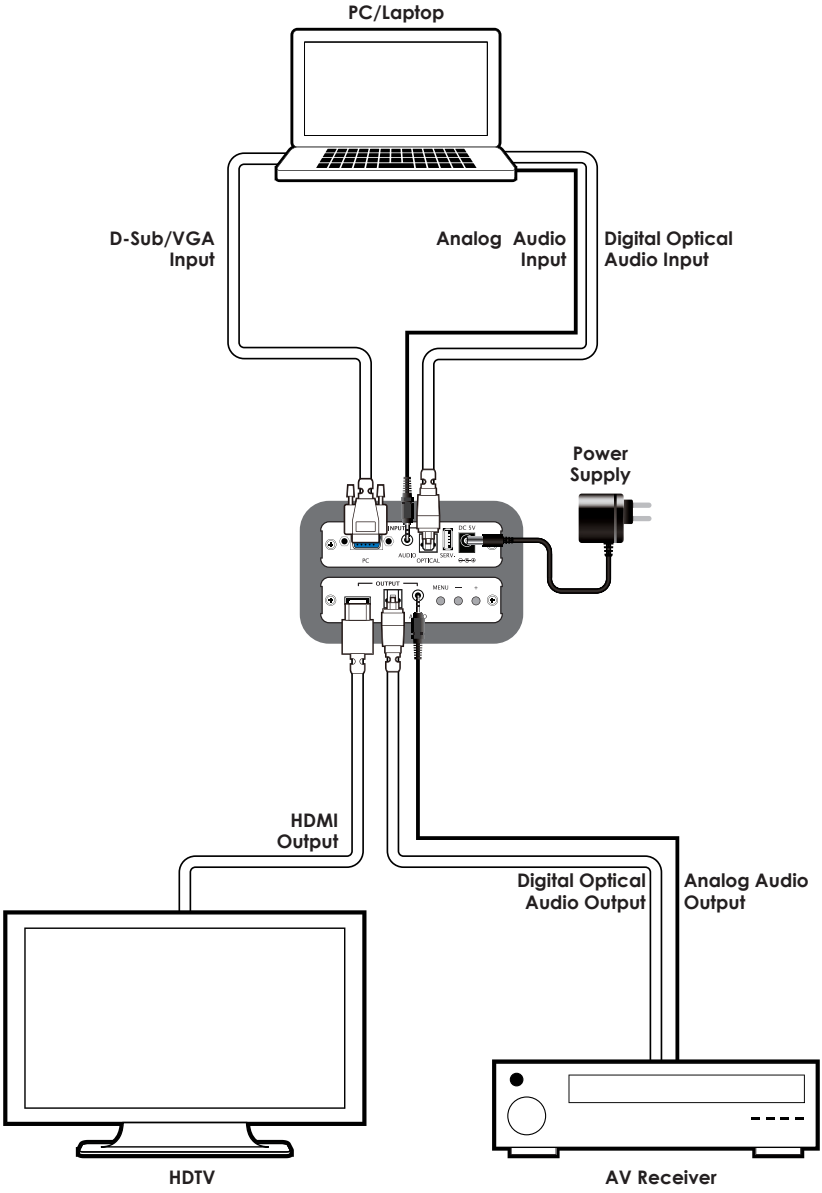
6.3 OSD Menu

MAIN MENU	1ST LAYER	2ND LAYER
PICTURE SETTING	CONTRAST	0~100 (50)
	BRIGHTNESS	0~100 (50)
	EXIT	
FINETUNE *(PC Mode Only)*	PHASE	0~100 (100)
	CLOCK	0~100 (50)
	H-POSITION	0~100 (50)
	V-POSITION	0~100 (50)
	EXIT	
FINETUNE *(HD/SD Mode Only)*	HUE	0~100 (50)
	SATURATION	0~100 (50)
	SHARPNESS	0~100 (50)
	NR	OFF, LOW, MIDDLE, HIGH (OFF)
	EXIT	
COLOR SETTING	RED	0~100 (50)
	GREEN	0~100 (50)
	BLUE	0~100 (50)
	EXIT	

MAIN MENU	1ST LAYER	2ND LAYER
OUTPUT SETTING	SIZE	FULL, OVERSCAN, UNDERSCAN, LETTER BOX, PANSCAN, ASPECT (FULL)
	RESOLUTION	640×480@60, 800×600@60, 1024×768@60, 1280×1024@60, 1400×150@60, 1600×1200@60, 1280×800@60, 1440×900@60, 1680×1050@60, 1920×1200@60RB, 1600×900@60, 480p, 720p@60, 1080i@60, 1080p@60, 576p, 720p@50, 1080i@50, 1080p@50
	EXIT	
AUDIO SETTING	DELAY	OFF, 40ms, 110ms, 150ms (OFF)
	INPUT	ANALOG, OPTICAL (ANALOG)
	SOUND	ON, MUTE (ON)
	EXIT	
OSD SETTING	H-POSITION	0~100 (10)
	V-POSITION	0~100 (90)
	TIMER	0~100 (50)
	BACKGROUND	0~100 (50)
	DISPLAY	INFO, ON, OFF (INFO)
	EXIT	

Note: Values in brackets are default for that setting.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

Video Bandwidth	225 MHz/6.75 Gbps
Input Ports	1×D-Sub 15-pin, 1×3.5mm Mini-jack, Optical (TOSLINK), 1×USB (Service only)
Output Ports	1×HDMI, Optical (TOSLINK), 1×3.5mm Mini-jack
HDMI Output Resolutions	Up to 1080p & WUXGA@60 (RB)
HDMI and Optical Audio Sampling Rates	Up to 48 kHz
Power Supply	5 V/2.6 A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±6 kV (contact discharge)
Dimensions	102 mm (W)×147 mm (D)×25 mm (H)/Jack Excluded 102 mm (W)×157 mm (D)×25 mm (H)/Jack Included
Weight	340 g
Chassis Material	Aluminum
Color	Black
Operating Temperature	0 ˚C~40 ˚C/32 ˚F~104 ˚F
Storage Temperature	−20 ˚C~60 ˚C / −4 ˚F~140 ˚F
Relative Humidity	20 ~ 90 % RH (non-condensing)
Power Consumption	4.8 W

8.2 Input and Output Resolutions

RESOLUTION	INPUT		OUTPUT	
	PC	SD/HD	PC	SD/HD
640×480@60/72/75/85	✓		✓@60	
800×600@56/60/72/75/85	✓		✓@60	
1024×768@60/70/75/85	✓		✓@60	
1280×1024@60/75/85	✓		✓@60	
1400×1050@60	✓		✓	
1600×1200@60	✓		✓@60	
1280×800@60	✓		✓@60	
1440×900@60	✓		✓	
1600×900@60	✓		✓	
1680×1050@50/60	✓		✓@60	
1920×1200@60RB	✓		✓	
480i/576i		✓		
480p/576p		✓		✓
720p@50/60		✓		✓
1080i@50/60		✓		✓
1080p@50/60		✓		✓

8.3 Audio Specifications

INPUT LEVEL/ FREQ.	OUTPUT TERMINAL	OUTPUT LEVEL	THD+N	FREQUENCE RESPONSE	SNR	CROSSTALK
Digital 0dB/1kHz	Digital	0dB ~ −1dB	<0.01%	±3dB	>70dB	<-80dB
Analog 1Vrms/1kHz	Digital	0dB ~ −1.5dB	<0.1%	±3dB	>70dB	<−60dB
Digital 0dB/1kHz	Analog	0.5Vrms ±10%	<0.1%	±3dB	±3dB	<−60dB
Analog 1Vrms/1kHz	Analog	0.5Vrms ±10%	<0.1%	±3dB	>70dB	<−60dB

9. ACRONYMS

ACRONYM	COMPLETE TERM
HDMI	High-Definition Multimedia Interface
WUXGA (RB)	Widescreen Ultra Extended Graphics Array (Reduce blanking)

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